DRAFT 2001 SITE MANAGEMENT PLAN (SMP) OF THE INSTALLATION RESTORATION PROGRAM FOR THE NAVAL AIR STATION PENSACOLA PENSACOLA, FLORIDA

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1.0 THE BASIS FOR A SITE MANAGEMENT PLAN

The requirement for the Site Management Plan (SMP) is identified in the Federal Facilities Agreement (FFA) signed by the United States Environmental Protection .Agency (USEPA)' the State of Florida, Department of Environmental Regulation (FDEP), now Florida Department of Environmental Protection (FDEP), and the Department of the Navy (DoN). The FFA was entered into based on the requirement for an interagency agreement identified in the Superfund Amendments and Reauthorization Act (SARA), Section 120 (e)(2). The intent of the plan is to provide: (1) an action deemed necessary to mitigate any immediate threat to human health or the environment, (2) a list of Operable Units (OUs) subject to the terms of the FFA, (3) a prioritization and rationale for the OUs at NAS Pensacola, and (4) activities and schedules fur work planned the current year, including the submittal schedule for both primary and secondary documents. With the FFA being signed on 23 October 1990, and having a declared effective date of 1 November 1990, this is the ninth annual update of the SMP.

2.0 OVERALLMANAGEMENTAPPROACH

Three major investigations have been conducted at NAS Pensacola. The DoN developed the Navy Assessment and Control of Installation Pollutants (NACIP) Program tu identify and control environmental contamination from past use and disposal of hazardous substances at Navy and Marine Corps Installations. The NACIP Program is now part of the Navy's Installation Restoration Program (NIRP), and is similar to the USEPA "Superfund" Program authorized by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980. The three major investigation activities performed at NAS Pensacola under the NIRP or Superfund Programs are the following: (1) Initial Assessment Study (IAS) or Preliminary Assessment (PA), (2) Verification Study (VS) or Site Inspection (SI>, (3) and the Confirmation Study (CS) or Extended Site Inspection (ESI). The IAS (1982-1983) was conducted by the Naval Energy and Environmental Support Activity (NEESA) and identified and assessed 29 Potential Sources of Contamination (PSCs) at NAS Pensacola which could pose a potential threat to human health or the

environment as a result of contamination from past Naval operations. The VS (1984) and the CS (1985-1986) were conducted by Geraghty & Miller, Inc. to confirm or deny the presence of contamination at the PSCs identified in the IAS, as well as possibly locate additional PSCs. If contamination was detected, the magnitude and the extent of contamination would have been evaluated to allow for the recommendation of future remedial response action at these PSCs.

In addition to the NIRP/CERCLA program, NAS Pensacola has other active regulatory programs. A Florida Resource Conservation and Recovery Act (RCRA) permit was issued to NAS Pensacola by the FDER. Concurrently, a RCRA Hazardous and Solid Waste Amendments (HSWA) permit was issued to the installation by USEPA on July 1988. A RCRA Facility Assessment (RFA) was included in the USEPA issued permit, and additional PSCs were located. An Underground Storage Tank (UST) Program is currently investigating multiple tank sites as provided by the Florida Administrative Code, Section 62-770. These are examples of some but not all the site specific Applicable or Relevant and Appropriate Requirements (ARAR) that are in progress at NAS Pensacola.

A total of 46 PSCs have been identified at NAS Pensacola. Of the 46 PSCs, 21 PSCs have been classified as requiring RI/FS status and 25 PSCs have been classified as requiring screening status in accordance with the FFA (see Table 1). Of the 21 RI/FS PSCs, two PSCs require primary deliverables for the 2001 calendar year (40 & 41), thirteen PSCs (PSC 1, 2, 8, 9, 15, 17, 24, 29, 32, 33, 35, 39, & 42) have had RODs submitted, one PSC was combined with another PSC (PSC 31 combined with PSC 30). Of the 25 screening PSCs, none of these PSCs require secondary deliverables for the 2001 calendar year, seven PSCs have been transferred to the UST program (PSCs 3, 19, 20, 21, 22, 23, 37), twelve PSCs have had Site Characterization Reports (SCR) submitted (PSCs 4, 5, 7, IO, 13, 14, 16, 18, 28, 34, 36, & 43), and three PSCs are scheduled for out years (PSCs 44, 45, & 46). Screening PSC 6 has been deleted since it is still an active landfill. These screening PSCs are tracked in the SMP with non-enforceable schedules fur planning

purposes only. The Tier I Partnering Team classified PSC 44, 45, & 46 as screening status. Each OU narrative identifies and briefly describes all PSCs to which the accompanying OU specific schedules applies.

Table 1
Identification of PSCs Requiring Action
NAS Pensacola

Category Number	OU Number	PSC	PSC Description	FFA Requires	Type of Contamination
1	-	13	Magazine Point Rubble Disposal	Screen	Rubble, Metal, Concrete
	10	32	IWTP Sludge Drying Beds	RI/FS	F006 HW
	10	33	WWTP Ponds	RVFS	F006 HW wood, bricks
	10	35	Miscellaneous IWTP SWMUs	RI/FS	Unknown
2	1	1	Sanitary Landfill	RVFS	Solvents, PCP, Plating Soln, oil, paints, mercury, and asbestos
	3	2	Waterfront Sediments	RIIFS	Solvents, cyanide, metals
	11	38	Bldg. 71 Sewer Line TL 073/C southwest to the end	RI/FS	Paint stripper, ketones, TCE, Industrial waste
	12	39	Oak Grove Campground Site	RI/FS	Debris, POL, broken clay, coal, cleaning solutions
3	2	11	N. Chevalier Disposal Field	RI/FS	Industrial waste, oils, HW
	-	12	Scrap Bins	Screen	Wet garage material
	-	25	Radium Spill Site	Screen	Radioactive waste
	2	26	Supply Department Outside Storage	RVFS	Industrial waste, oils
	2	27	Radium Dial Shop Sewer	RI/FS	Radium, phosphorus
	2	30	Bldg. 649 & 755, Bldg. 648 (previously PSC 31) Sewer Line TL 045/A north to IWTP	RVFS	Metals, acids, caustic, degreasers, chromic soln, cyanide, paint, pesticides, paint thinner and sludge, Industrial waste

4	15	40	Bayou Grande Area	RI/FS	Unknown
	16	41	NASP Wetlands	RI/FS	Unknown
	17	42	Pensacola Bay	RI/FS	Unknown
5	6	9	Navy Yard Disposal	RI/FS	Trash and refuse
	-	10	Commodores Pond	Screen	Underwater storage of oak timbers
	-	14	Dredge Spoil Fill	Screen	Dredge
	6	29	Soil South of Bldg. 3460	RIJFS	Slimy black substance (unknown)
	-	34	Solvent North of Bldg. 3557	Screen	Solvent detergent
6	4	15	Pesticide Rinseate Disposal Area	RI/FS	Organic pesticide
	14	17	Transformer Storage Yard	RI/FS	Dielectric oils, PCBs
	-	18	PCB Spill Area	Screen	Transformer oil, PCBs
	-	20	Transformer Accident	Screen	Transformer oil
7	-	4	Army Rubble Disposal	Screen	Rubble, timber, pipes, other wastes
	-	5	Borrow Pit	Screen	Unknown
	-	7	Firefighting School	Screen	POLS
	13	8	Rifle Range Disposal	RI/FS	Solid waste, paper
	-	16	Brush Disposal Area	Screen	Pruning and tree trimming refuse
	13	24	DDT Mixing Area	RI/FS	DDT w/diesel fuel
8	-	36	IWTP Sewer line	Screen	Industrial waste
-	-	43	Buried Drums	Screen	Unknown
-	-	44	Former UST 3221SW	Screen	Solvents
-	-	45	Building 603 Lead Site	Screen	Lead
-	-	46	Former Building 72	Screen	Metals

Schedules are in place for each screening PSCs in the IR program, and will be used to track the investigation progress providing updates to the Remedial Project Managers (RPMs). Each screening PSC will remain a screening PSC until such time as defensible and validated Level III or IV data becomes available. Once available, the Navy will utilize such data to either prepare individual PSC Site Characterization Reports to support a NFRAP determination with

USEPA/FDEP concurrence or immediately reclassify the PSC to RI/FS status. When any screening PSC is reclassified to RI/FS status, an enforceable schedule with due dates will be submitted at the next Tier I Partnering meeting. The parties will either reach agreement on the schedule at that meeting or will set a time frame for agreeing on that schedule. For PSCs currently listed as RI sites, if upon review of the RI report, the Parties agree that no remedial action is needed, then a draft Proposed Plan (PP) will be submitted in place of the FS. The Parties should make this decision as early in the process as possible and revise the appropriate enforceable schedules. During the investigation, if a removal action is deemed necessary or desirable, the DoN will provide a schedule indicating impacts to the current enforceable schedule for the consideration by the Tier I Partnering Team.

Specific changes have been made to facilitate the investigation at OUs 2 and 3. All Category 3 RI/FS PSCs (11, 26, 27, 30) have been combined into OU 2 due to their geographic proximity and common potential remediation. (Note: PSC 27 was originally OU-7 and PSC 30 was originally OU-5.) All Category 3 Screening PSCs (12, 25) are associated with OU 2, (Note: PSC 25 was originally associated with OU-7.) OU 9; PSC 31, "Soil North of Building 648" has been combined with Category 3, OU 2; PSC 30, "Building 649 and 755" due to the proximity and similar contaminants. Category 2; OU 7; PSC 27, "Radium Dial Shop Sewer" and Screening PSC 25; "Radium Spill Site" have been moved to Category 3 so they can be reported together with OU 2. This combination was necessary to allow study of contaminant migration across site boundaries. Category 7, OU 18, PSC 26, "Supply Department Outside Storage", and Category 7, Screening PSC 12, "Scrap Bins", have been moved to Category 3 due to their geographic proximity to Category 3 PSCs. Category 3, OU 3, PSC 2, "Waterfront Sediments", and Category 3, OU 11, PSC 38, "Bldg. 71 Sewer Line TL 073/C Southwest to End", have been moved to Category 2 to expedite completion of the investigation.

Additional changes were agreed upon at the 22 August 1996 Tier I Partnering Team meeting. Due to the proximity of PSCs 8, 22, and 24 along with the detected levels of contamination detected at PSCs 8 and 24, these sites will be grouped into Operable Unit 13. Therefore, Category 6, Screening PSC 24, "DDT Mixing Area", has been moved to Category 7, elevated to RI/FS status, and grouped into Operable Unit 13 based on geographic location. Category 7, Screening PSC 8, "Rifle Range Disposal", has been elevated to RI/FS status and grouped into Operable Unit 13 based on geographic location. Category 7, RI/FS PSC 22 has been transferred to the Underground Storage Tank Program.

The seven (7) remaining PSCs that will not proceed in the IR Program are PSCs 3, 19, 20, 21, 22, 23, and 37. These PSCs were transferred to the UST Program and are not included or tracked in this SMP. The State of Florida has a regulated process for the remediation of petroleum contaminated sites.

The SMP provides event management planning. Included in the SMP is a description of NAS Pensacola's PSC program arrangement into remedial activity categories and OUs.

The CERCLA Remedial Investigation/Feasibility Study (RI/FS) process is tailored to allow prioritization of PSCs according to potential threat to human health and the environment. The process initially focuses on source identification and delineation of soil, sediment, groundwater and surface water contamination. Data is continually assessed and PSCs evaluated to determine if contamination is present, to what extent, and what further action is needed. Should a threat to human health and or the environment exist, the process is responsive to provide time critical removal of contaminants from a PSC. If an initial data evaluation indicates groundwater and/or surface water to be an immediate threat to human health or the environment, interim actions may be performed to mitigate further transport from the PSC. If groundwater or surface water contamination is not judged to be an immediate threat, delineation may be performed on a larger

scale by viewing local aquifer and surface water systems as an individual OU(s) which may be impacted by several PSCs simultaneously.

Innovative ways are continually sought to reduce lengthy interim report development and review process. Methods such as offering data presentations to regulatory agencies allowing continual data assessment and rapid decision-making are good examples. These data presentations are in response to a need to eliminate the need for formal interim data reports and thereby reduce the time required to reach critical decision points fur each PSC. Specifically, the data gaps and the information needed to fill those gaps shall be identified by evaluating the data itself rather than by evaluating a formal data report. These data presentations tu concerned agencies offer effective communication and a reduced schedule to reach a ROD. A formal report shall be prepared once the nature and extent of contamination has *been* adequately delineated for the purposes of performing a BRA and selecting a Remedial Action. Decisions concerning data assessment and actions to be taken can be made during RPM meetings. These meetings will provide a forum for discussion of investigative results and proposed actions. The verbal decisions may be final with no reporting and review time requires.

This approach synthesizes prioritization of PSCs with a realistic view of dynamic environmental systems. Areas more easily defined can be identified and treated, thereby removing potential sources of contamination in a timely manner. Flowing groundwater and surface water systems are naturally continuous without regard for PSC boundaries, and may be investigated and treated as a single system.

The RI/FS process is responsive to individual PSC characteristics and technical requirements, and attempts to minimize lengthy delays between field actions. This process provides the Navy flexibility to address PSCs, OUs, or a set of PSCs/OUs separately or as a whole. In addition, specific matrices (i.e., soil/sediment, groundwater, surface water, or air) of individual PSCs, or

OUs, can be treated separately if necessary, or a single matrix may be investigated at one time across the entire facility.

As agreed upon in the FFA, the DoN shall update the SMP yearly. Updates (due September I of each year) will reflect changes in project priorities, changes in scheduling, and the addition or deletion of PSCs due to the site condition or program accomplishments with the continued regulatory agency and the Restoration Advisory Board (RAB).

3.0 RATIONALE FOR OPERABLE UNIT (OU) GROUPINGS

To facilitate implementation of the NAS Pensacola RI/FS program, the nineteen (19) PSCs requiring RI/FS have been clustered into thirteen (13) OUs. The scheduled work at these OUs is being prioritized based on relative potential threat, schedule optimization, and task management. The category priorities were originally formulated in the Site Management Pian, at the June 1992 RPM meeting for Category 1-4 and in August 1992 for Category 5-7 for the yearly SMP submittal. As a result of the 1993 Base Realignment and Closure process, category priorities were modified and are reflected in the following operable unit narratives. The criteria used to generate the RI/FS OUs was as follows.

- Geographic proximity of PSCs
- Similar contamination types
- Similar aquifer contamination zones
- Similar potential investigation methods
- Potential scape and complexity of the investigation
- Mission impact of remedial activities
- Regulatory concerns
- Similarity of potential remedial actions
- Potential for human exposure/contact
- Suspected mobility of potential contaminants

- Potential for off-site migration and exposure
- Relative threat to groundwater (e.g., suspected date, and volume of release)

These OUs may be re-defined as more data is collected and evaluated.. Ultimately, an OW will consist of PSCs and matrices which require similar remedial efforts, or potential for human exposure/contact, or for earlier remediation.

Due tu the large number of PSCs on NAS Pensacola, the number of PSCs in each OU, and the aggregate complexity of the contamination problem at each OU, the commencement of work at all OUs concurrently is not feasible. The schedule has been staggered to relieve these and other problems such as regulatory staffing, monetary resources, and contractor resources.

4.0 EXCLUSIONS

The PSCs undergoing screening activities are included and otherwise addressed hereafter in the SMP, some have been grouped with OUs for investigative and reporting purposes. After screening the PSCs, the RPMs will determine future response activities If RI/FS activities are recommended, the DoN shall incorporate these PSCs into existing OUs prior to the submittal of the RI report, or designate them as new OUs following the criteria listed in Section 3. When all parties concurrence has been established, the future additional OUs shall become part of the SMP, and a revision to the SMP shall be made in accordance with Section 2.0.

5.0 OPERABLE UNIT SCHEDULING

OU schedules are based on the issuance of draft primary and secondary submittals, The schedule is in accordance with the FFA and reflects USEPA and FDEP input allowing for review periods based on their resources. The SMP assumes no dispute resolutions or delays due to holidays, vacations or weekends. The schedule calendar is a Julian calendar without weekends, holidays, or other non-work days. Quarterly reports will be submitted as required in the FFA. The final comment responses to be submitted with each draft final primary document, shall be the product of consensus of all Parties to the maximum extent practicable. In order to achieve this goal, the Navy shall notify the Parties in writing of any difficulties which it foresees in adequately addressing any agency's comments as soon as possible, and no later than 60 days from receipt of all regulatory comments.

6.0 OPERABLE UNIT NARRATIVES

The following narratives describe the contents of each OU. A brief description of each OU and what is known about its contamination is included. Deliverables for the upcoming year are listed with due dates.

RI/FS Category 1: OU 10

- **PSC 32: IWTP Sludge Drying Beds,**
- **PSC 33: WWTP Ponds,**
- **PSC 35: Miscellaneous IWTP Solid Waste Management Units (SWMUs),**
- **PSC 13: Magazine Point Rubble Disposal (Screening PSC)**

PSC 32, *Industrial* Wastewater Treatment *Plant (IWTP)* Sludge Drying Beds - These contiguous units operated with the IWTP from 1973 to 1984. These units received listed hazardous waste sludges (F006) from the RCRA surface impoundment (IWTP Surge Pond), and, as a result, underwent RCRA closure in 1989. Contents of the drying beds (remaining sludge and leachate drainage system) and an underlying layer of sand were removed to about six feet below ground surface. Material removed was disposed of as a hazardous waste. The PSC was then backfilled with clean sand and capped with high density asphalt. The site's groundwater is monitored by three (3) monitoring wells and the surrounding HSWA permit groundwater monitoring system. The PSC will continue to be monitored under the HSWA permit as a part of the IR Program.

PSC 33, Wastewater Treatment Pond *(WWTP)* - These surface impoundment's consist of the domestic polishing pond, phenol/stabilization pond and industrial surge pond. In 1987, the USEPA RCRA Compliance Branch determined the polishing and stabilization ponds received listed F006 hazardous waste from the surge pond. The ponds were taken out-of-service. In 1988-1989, the ponds underwent RCRA permitted "clean closures". The sediment in the ponds was removed and disposed of as hazardous waste. No further formal monitoring of these surface impoundment's is required, but they are in range of the HSWA permit monitoring system. The industrial surge pond was taken out-of-service and underwent closure in 1989. The industrial surge pond is suspected of being the prime contributor to the IWTP groundwater contamination. The surge pond was removed tu the groundwater table. The groundwater table is approximately six (6) feet below ground

surface. Removed material was disposed of as a hazardous waste. The surge pond PSC will continue to be monitored under the HSWA permit as part of the IR program.

PSC 35, Miscellaneous IWTP SWMUs – In addition to PSC 32 and 33 units, other units in the IWTP may receive hazardous waste or constituents. These will be investigated for possible releases. Most of these units are above ground tanks. These tanks require only visual inspection for leaks, cracks, or other evidence of release. Also included are underground oil/sludge storage tanks and underground piping which are appurtenances to SWMUs. The following units are included as IWTP area SWMUs:

- Industrial Grit Chamber
- Primary Clarifier
- Oil/Water Separator
- Oil Storage Tanks
- Sludge Thickener
- Belt Filter Presses
- Parallel Flocculators
- Aeration (activated sludge) Tank
- Parallel Final Clarifiers
- Aerobic Sludge Digester
- Contact Chlorinator
- Ancillary Piping, Pumps, Junction Boxes, etc.

PSC 13, Magazine Point Rubble Disposal (Screening *PSC)* – PSC 13 will be investigated and reported on concurrently with this OU. This PSC is within the same area as PSC 32 and 33, and was found after the construction in 1971 and upgrading of the existing WWTP to provide tertiary treatment of industrial wastes and secondary treatment of the domestic wastes by NAS Pensacola.

These PSCs were grouped together due to the following: geographic proximity of PSCs, similar contamination types, and similar groundwater flow. Prioritization of these PSCs was due to the suspected magnitude and toxicity of contamination, the potential for off-site migration of contaminants via several pathways, and the potential for human exposure.

2001 Primary Deliverables	Due Date
NONE: RODSUBMITTED	

RI/FS Category 2: OU 1

- **PSC 1: Sanitary Landfill**

This large SWMU received both sanitary and industrial waste over a 20 year period. These waste include solvents, PCBs, plating solutions, pesticides, oils, paints, mercury, medical waste, and pressurized cylinders. Reportedly, asbestos is also buried here. Twelve (12) shallow and three (3) deep monitoring well are located in the site vicinity. Samples taken from monitoring well indicate groundwater contamination exists in both the shallow and deep layer of the uppermost aquifer. These aquifers are separated by a locally semi-confining clay layer. Shallow groundwater moves north and east and discharges into the Bayou Grande. The flow direction in the underlying aquifer is southward. Two (2) deep wells used as occasional potable water supply tap into the deep aquifer. These wells are southwest within one (1) mile radius of the site. Neither of these wells are known to be contaminated. PSC 1 was identified prior to preparation of the IAS report in 1983. The PSC was given a very high investigative priority relative to other PSCs identified at this time. This priority was due to the suspected magnitude and toxicity of contamination, the potential for off-site migration of contamination via several pathways, and the potential for human exposure.

2001 Primary Deliverables	Due Date
NONE: ROD SUBMITTED	

RI/FS Category 2: OU 3

- **PSC 2: Waterfront Sediment Area**

Documented quantities of industrial and hazardous waste discharged to Pensacola Bay by storm sewers over a 35 year period. Examples of these hazardous wastes are solvents, cyanide and heavy metals. Fish kills were not uncommon in this area during 1940s, 1950s, and 1960s. Periodic dredging has been done to widen and deepen the channel for current aircraft carrier berthing. This PSC was given a higher priority due to the suspected magnitude and toxicity of potential contamination.

2001 Primary Deliverables	Due Date
NONE: ROD SUBMI	

RI/FS Category 2: OU 11

- **PSC 38: Building 71 and Industrial Waste sewer Line (TL 073/C southwest to the end)**

This PSC includes buildings 71 and the associated industrial waste sewer line. The building has since been demolished but, soil testing conducted detected hazardous waste constituents, the presence of which is consistent with the use of Buildings 49, 71, and 72 during the period from about 1935 to the late 1970s for aircraft paint stripping and painting operations. These activities are described in the IAS in detail. Study documents identify the use of paint strippers, ketones, and trichloroethylene (for parts cleaning) in Buildings 49 and 71. Ten 550 gallon above grade tanks were located in these facilities which were periodically drained through the underground lines from the buildings to Pensacola Bay. A cyanide spill in the area near Buildings 71 and 104 and the presence of cyanide in the adjacent bay waters also are documented in the report.

Waste from various types of operations enter the Industrial Waste Sewer Line (TL 073/C southwest to the end) without any pretreatment or segregation. Consequently, the waste stream may consist of everything generated or used in the facility, including paint strippers, heavy metals, pesticides, fuels, cyanide wastes (prior to 1962), solvents, and waste oils.

2001 Primary Deliverables	Due Date
NONE	

RI/FS Category 2: OU 12

- **PSC 39: Oak Grove Campground Area**

Oak Grove is a campground area located immediately South of Sherman Field on the South side of Radfurd Boulevard. An area of stressed vegetation and stained soil approximately 150 feet in diameter was found near the Pensacola Bay. A small amount of construction debris consisting of old brick, broken clay pipe and coal is scattered across the site. Records indicate that a saw mill was once located near this site. Investigations are currently underway to determine if the debris is the remains of this old mill or if this was an old dump site. Preliminary tests of the surface soil showed that the stained soil is the result of petroleum contamination.

2001 Primary Deliverables	Due Date
NONE: RODCOMPLETED	

RI/FS Category 3: OU 2

- **PSC 11: North Chevalier Disposal Area**
- **PSC 26: Supply Department Outside Storage Area**
- **PSC 12: Scrap Bins (Screening PSC)**
- **PSC 27: Radium Dial Shop Sewer**
- **PSC 25: Radium Spill Area (Screening PSC)**
- **PSC 30: Buildings 648,649, and 755 and Sewer Line (TL 145/A North to IWTP)**

PSC 11, North Chevalier Disposal Area - This PSC received industrial waste and oils, including hazardous waste. Eleven (11) shallow monitoring wells have been installed, three (3) of which have been destroyed. One (1) deep well is also in place. Analytical data from the wells indicate both shallow and deep groundwater contamination with heavy metals and VOCs. Groundwater flow in the shallow system is eastward toward the creek leading into Bayou Grande. Sediment samples taken during the NACIP Study showed high concentrations of heavy metals. Borings to define the lateral and vertical extent of the landfill indicate construction debris east of the creek. The total lateral extent of the site is unknown. Old topographic surveys indicate the fill encompasses several hundred thousand square feet of the original tidal creek area. Prioritization of this PSC was due to the suspected magnitude and toxicity of contamination, pathways, and the potential for human exposure.

PSC 26, Supply Department Outside *Storage* Area - PSC 26 is a 90 square foot outside area, south of building 684, used to store containers of industrial materials. Containers were stored on steel mats. Leakage is reported to have occurred from these containers. Since PSC 11 is down gradient from this area, in depth studies will be conducted.

PSC 12, Scrap Bins (Screening *PSC)* - Screening PSC 12 is being investigated and reported on concurrently with this OU. It is located approximately 800 feet northwest of Chevalier Field and

600 feet west of PSC 11. Most of the site area is enclosed by a fence and covered with a large concrete pad where heavy equipment is currently kept. From the early 1930s to mid 1940s, garbage from NAS Pensacola was placed in scrap bins and stored in this area (industrial waste was sent to the North Chevalier Disposal Area). Approximately 16 cubic yards (2 truck loads) per day of wet garbage was stored before being hauled off and used as livestock feed+ There is no evidence of hazardous material disposal at this PSC.

PSC 27, Radium Dial Shop Sewer - From 1940s to 1976, Building 709 was used to rework instrument dials painted with radium containing paint. Spent cleaning solutions and luminous paint were routinely poured into the sanitary sewer system. In 1976, the building was dismantled and the drain pipe found to have a reading of 1.2 mR/hr. The drain pipe was removed to a depth of 18 inches. The remaining lateral underground portion of the pipe was capped and covered with concrete. At PSC 27, radium removal operations at NAS Pensacola involved stripping radium-containing paint from instrument dials prior to repainting. From 1965 to 1975, these operations were conducted in Building 709. In 1975, all activities related to radium painted instruments, including stripping and repainting, were permanently moved to building 780. At the present, aircraft instruments containing radium are disassembled in Building 780. Instrument dials were stripped using paint thinner, then soaked in a lye and nitric acid solution. Contaminated instruments cases were processed by soaking in a "turco" acid solution. Components were cleaned with a wire brush to remove all residue.

Screening PSC 25 has been grouped with PSC 27 to investigate the extent of contamination. One (1) shallow well and one (1) deep monitoring well was installed near the drain of PSC 27. Analyses of shallow samples indicate *gross* Alpha concentrations in the shallow groundwater are below the primary drinking water standard. Chlorinated hydrocarbons were detected. Chlorinated hydrocarbons were not detected in samples from the deeper wells, The groundwater flow direction

is, reportedly, south-southeast and toward PSC 30. Several analyses fur chlorinated VOCs from the installed monitoring wells indicated traces of solvents are present in the groundwater.

PSC 25, Radium Spill Site (Screening *PSC)* - PSC 25 will be investigated and reported on concurrently with this OU and is located on the eastern portion of **NAS** Pensacola just east of Murray Road and north of Farrar Road on the east side of Building 780. NEESA (1983) reported a small spill of low-level radioactive waste containing radium at this site in 1978. The spill occurred on pavement and was properly cleaned up according to NEESA. The spill occurred because drums of waste were being stored in the weather and allowed to corrode and leak. Building 780 was the location of radium removal operations for radium dials and other equipment. The equipment was decontaminated here before being repainted in the radium dial shop (former Building 708). Contamination resulting from the spill or waste handling are the fucus of the investigation. On 14 Oct 1992 the UST program transferred 709D-N, which is at PSC 27, to the IR Program.

These PSCs were grouped together mainly due to the following: geographic proximity of PSCs, and the potential for off-site migration, and its impact on the other PSC. Prioritization of these PSCs was due to the suspected magnitude and toxicity of contamination, the potential for off-site migration of contaminants via several pathways, and the potential for human exposure.

PSC 30, Buildings 648, 649 and 755 and Industrial Sewer Line - Over a fifteen (15) year period north of Bldg. 648, waste paint, thinner, and paint sludges were poured onto the ground. The only monitoring well near the site indicated low concentrations of chlorinated hydrocarbons. A second round of samples from this monitoring well detected no chlorinated volatiles. The exact location of the disposal site in relation to the monitoring well is not reported. The plume of contamination may have already passed the monitoring point. Further study will be conducted. On 14 Oct 1992 the UST Program transferred 647N and 648N, which are at previous PSC 31, to the IR Program.

Building 649 housed a tin/cadmium plating shop with fifteen (15) tanks located inside this building, ranging in capacity from 200 to 500 gallons. These tanks, along with a 250 gallon tank of trichlorethylene, were emptied routinely into a ditch leading to a creek discharging into Bayou Grande. Acids, caustics, degreasers, and chromatic solutions were also drained into this ditch. After twenty (20) years, this operation was replaced with a magnesium treatment line. The magnesium treatment line operated for ten (10) years.

Building 755 operated 50 tanks located inside this building over a ten year period as a plating facility for nickel, lead, tin, chromium and miscellaneous metals. These tanks, ranging in capacity from 50 to 200 gallons, were drained periodically into the ditch described above. Sediment samples from four (4) separate locations in the ditch were analyzed for metals and cyanide. Low levels of metal (below EP Toxic) were found. On 14 Oct 1992 the UST Program transferred 647E, 647N, 649N, and 649W, which are at PSC 30, to the IR Program.

Waste from various types of operations enter the Industrial Waste Sewer Line (TL 045/A north to the IWTP) without any pretreatment or segregation. Consequently, the waste stream may consist of everything generated or used in the facility, including paint strippers, heavy metals, pesticides, radioactive wastes, fuels, cyanide wastes (prior to 1962), solvents, and waste oils. In 1979, a pump failure at the final industrial waste lift station, located approximately 2,000 feet southwest of the Industrial Waste Treatment Plant, caused a spill of industrial waste into a nearby unnamed creek, which leads into the south arm of Bayou Grande. The spill was investigated by the Florida Department of Environmental Regulation (FDER), and a Notice of Violation was issued to NAS Pensacola. The spill caused a minor fish kill in the creek.

Prioritization of this PSC was due to the suspected magnitude and toxicity of contamination, the potential for off-site migration of contaminants via several pathways, and the potential for human exposure.

2001 Primary Deliverables	Due Date
NONE	

RI/FS Category 4: OU 16

- **PSC 41: Naval Air Station Pensacola (NASP) Wetlands**

An EPA inventory of wetlands identified and enumerated 79 wetlands complexes on NAS Pensacola. Two other wetlands were identified during habitat/biota surveys. For the purpose of these studies, freshwater and brackish water ponds, and drainage ditches are included as wetlands. The majority and largest of the wetlands on NAS Pensacola are located in the western portion of the installation, primarily south and west of Sherman Field. About a third of the 81 wetlands are located east of Sherman Field, where most of the IRP sites are located. These small and remnant wetlands are the only potential receptors on base. Contamination was detected in all eight wetlands that have been sampled during contamination assessments. Nineteen PSCs (1, 3, 4, 5, 6, 9, 10, 11, 13, 14, 16, 29, 30, 32, 33, 34, 35, 36, and 39) on NAS Pensacola are suspected sources of contamination to these wetlands.

2001 Primary Deliverables	Due Date
Draft Feasibility Study	10 July 2001

RI/FS Category 4: OU 15

- **PSC 40: Bayou Grande**

NAS Pensacola is bordered on the south by Big Lagoon and Pensacola Bay, on the east by Pensacola Bay, and on the north by Bayou Grande. Bayou Grande, an estuarine water body connected to Pensacola Bay, lies adjacent to the northern boundary of NAS Pensacola. During contamination assessment investigations, Total Recoverable Petroleum Hydrocarbons (TRPHs), metals, Polynuclear Aromatic Hydrocarbons (PAHs), and phenols were detected in near shore Bayou Grande sediment samples, and metals were detected in near shore Bayou Grande surface water samples. Sixteen PSCs (1, 3, 9, 10, 11, 12, 15, 16, 23, 29, 30, 32, 33, 34, 35, and 36) are believed to potentially contribute to the concentrations found in Bayou Grande.

2001 Primary Deliverables	Due Date
Draft Proposed Plan	**24 December 2001**

RI/FS Category 4: OU 17

- **PSC 42: Pensacola Bay Area**

NAS Pensacola is bordered on the south by Big Lagoon and Pensacola Bay, on the east by Pensacola Bay, and on the north by Bayou Grande. Only a very small portion of the western end of NAS Pensacola is farther than a mile from one of these bodies of water. Swampy areas exist on or near the western portion of NAS Pensacola. Man-made drainage ways and storm drains feed into the short intermittent streams emptying into Pensacola Bay and Bayou Grande. No perennial streams enter or exit NAS Pensacola, but the marshy areas (wetlands) and their small lakes retain water throughout the year. During contamination assessment investigations, metals, total recoverable petroleum hydrocarbons (TRPHs), Polynuclear aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs) were detected in sediment samples collected along the southeastern waterfront of Pensacola Bay. Fourteen PSCs (2, 3, 4, 13, 14, 17, 18, 28, 32, 33, 35, 36, 28, and 39) on NAS Pensacola are suspected sources of contaminants to Pensacola Bay.

2001 Primary Deliverables	Due Date
NONE: ROD SUBMITTED	

RI/FS Category 5: OU *6*

- **PSC 9: Navy Yard Disposal Area**
- **PSC 29: Soil South of Building 3480**
- **PSC 34: Solvent North of Building 3557 (Screening PSC)**

PSC 9, Navy Yard Disposal **Area** – This area was used for the disposal of trash and refuse during the period between 1917 and the early 1930s. It is reported that the PSC is shown on several old maps as the Navy Yard Dump or the Warrington Village Dump (NEESA 1983). In the late 1960s, while trenching :for the Industrial Wastewater Treatment Plant (IWTP) system, **part** of PSC 9 was excavated. Glass, scrap metal, and debris were unearthed. No unusual odor was reported associated with the PSC. The IAS report concluded no further study was necessary and the PSC did not constitute a threat to human health or the environment. During the VS of this PSC, monitoring wells were installed at the southwest corner of Chevalier Field to determine shallow groundwater flow and groundwater samples taken to further delineate the contamination problem in the general area of Screening PSC 34 and PSC 29. Groundwater samples were analyzed for VOCs; however, no VOCs were detected in any samples obtained.

PSC 29, Soil *South of Building* 3460 – In 1981, workers excavating soil beneath the concrete apron south of Building 3460 received skin bums from a "black slimy liquid" in the soil. Types of chemicals involved and extent of contamination are unknown. **A** leak in the nearby industrial sewer line from the Naval Aviation Depot (NADEP) facility is the **expected** source, This site is **part** of the group including PSC 9 and Screening PSC 34 studied together. No analyses of groundwater for non-halogenated hydrocarbons volatiles, extractables, exotic or parameters other than method 601 VOCs were done.

PSC 34, Solvent North *of Building* 3557 (Screening *PSC)* – During May 1984, a leak occurred in a pipeline at the north end of Building *3557.* The leak reportedly resulted in the loss of solvent

detergent used for cleaning aircraft. The solution contained 17 **percent** chlorinated aromatic hydrocarbons solvent. Contamination of site soils and groundwater may have occurred as the result of the solvent detergent release. Contamination, may have penetrated beneath the apron via the expansion joints which separated individual concrete tiles and via runoff of escaped solvent to the unpaved storage tank area. The unpaved drainage ditch in the tank area is suspected to have carried contamination off-site and is presumed to be connected to the paved drainage ditch located west Chevalier Field. It is unknown whether or not site contamination entered into the NAS Pensacola storm sewer system.

'These PSCs were grouped together mainly due to the following: geographic proximity of PSCs, the potential for off-site migration, and its impact on the other PSC. Prioritization of these PSCs was due to the suspected magnitude and toxicity of contamination, the potential for off-site migration of contaminants via several pathways, and the potential for human **exposure.**

2001 Primary,Deliverables	Due Date
NONE: ROD SUBMITTED	

RI/FS Category 5

- **PSC 10: Commodore's Pond (Screening PSC)**

During the mid-nineteenth century, screening PSC 10 was the location of a small surface water body used for the underwater storage of shaped oak timbers. This underwater storage method preserved the wood prior to its use for shipbuilding. The original pond's, no longer in existence, exact dimensions are unknown. PSC debris was unearthed in the late 1960s during trenching operations for installations of the IWTP system. Abandoned oak timbers were exhumed and reburied on Magazine Point. It is reported no hazardous materials were encountered during this effort,

2001 Secondary Deliverables	Target Date
NONE: SCRSUBMITTED	

RI/FS Category 5

- **PSC 14: Dredge Spoil Disposal Area (Screening PSC)**

PSC 14 has been used for placement of dredge materials removed from Pensacola Bay. These materials represent the sand, mud, and debris found at various depths within the Pensacola Bay dredged channels and basins.

2001 Secondary Deliverables	Target Date
NONE: SCRSUBMITTED	

RI/FS Category 6: OU 4

- **PSC 15: Pesticide Rinseate Disposal Area**

PSC 15 is located at the golf course maintenance area. It was used for over sixteen (16) years as a disposal area for rinse water from cleaning pesticide mixing and spray equipment. It includes a septic tank and drain field system. The quantity disposed of in this area is unknown, Analysis of soil samples show the presence of organic pesticides and EP Toxic concentrations of arsenic in the soil. Two (2) shallow monitoring wells were installed. Analysis of groundwater for pesticides and PCB indicate arsenic is present in groundwater. Groundwater flow direction is presumed northerly towards the Bayou Grande. In depth studies will be conducted to help define the contamination plume and definitive flow direction.

2001 Primary Deliverables	Due Date
NONE: ROD SUBMITTED	

RI/FS Category 6: OU 14

- **PSC 17: Transformer Storage Yard**

Transformers containing PCBs as well as PCB-free transformers were stored on this paved area. A black oily residue on the pavement was found to contain high levels of PCBs as well as other chlorinated hydrocarbons. Three (3) soil borings drilled through the pavement found significant concentrations of PCBs near the catch basin; leakage through joints in the pavement is the suspected cause., PCB concentrations were below the EP toxic standard.

No sampling of soil outside of the paved area has been done. In addition, no samples were taken from sediments or soils within or under joints, cracks in the catch basin, or the storm sewer, Further study will be conducted on this PSC.

2001 Primary Deliverables	Due Date
NONE: ROD SUBMITTED	

RI/FS Category 6

- **PSC 18: PCB Spill (Screening PSC)**

In 1966 a transformer at Substation A reportedly failed, spilling approximately 50 gallons of transformer oil containing an unknown concentration of PCBs on the small gravel-covered area along the northeast side of substation A. It is assumed no clean-up effort was conducted. During IAS field investigations, analysis of a field sample indicated Aroclor 1260 was present at a concentration of 4 ppm, which was less than that considered hazardous under the Toxic Substance Control Act.

2001 Secondary Deliverables	Target Date
NONE: SCR SUBMITTED	

RI/FS Category *6*

• PSC 28: Transformer Accident Area (Screening PSC)

In 1969 a transformer fell from a truck traveling on Radford Boulevard, just north of Building 632. The transformer broke open and spilled approximately 50 gallons of transformer oil onto the pavement. It is not known whether the oil contained PCBs. The oil was reportedly washed into a nearby storm sewer drain.

2001 Secondary Deliverables	Target Date
NONE: SCRSUBMITTED	

RI/FS Category 7: OU 13

- **PSC 8: Rifle Range Disposal**
- **PSC 24: DDT Mixing Area**

PSC 8: Rifle Range *Disposal* - The rifle range disposal area is located in the area now occupied by Building 3561. This building covers an area approximately *550* feet by 163 feet. Surrounding the building is an asphalt parking lot on the eastern, western and northern sides of the building+ Along the southern side of the building lies a small grassy area. This area was reportedly used for the disposal of solid waste (primarily paper) from NAS Pensacola between 1951 and 1955, and disposal was accomplished by burning and burial.

PSC 24: *DDT Mixing* Area - From the early 1950s until the early 1960s, this PSC was used as a location for mixing DDT with diesel fuel for mosquitoes control. Spill occurred within the mixing area when DDT' was transferred from drums to spray tanks. The unintentional spillage of DDT concentrate may have contaminated site soil and groundwater.

2001 Primary Deliverables	Due Date
NONE: ROD SUBMITTED	

RI/FS Category 7

- **PSC 4: Army Rubble Disposal Area (Screening PSC)**

Site 4 is an area of about 150 feet by 800 feet southeast of Forrest Sherman Field, just north of Building 3260. In the early 1950s rubble from tearing down the old U.S. Army barracks at Fort Barrancas was disposed of at Site 4. The rubble included timber, pipes, mattresses, and other waste.

2001 *Secondary* Deliverables	Target Date
NONE: SCRSUBMITTED	

RI/FS Category 7

- **PSC 5: Borrow Pit (Screening PSC)**

Site 5, a long, shallow pit about one foot deep, is southeast of Forrest Sherman Field and east of Building 3221. Soil was removed ("borrowed") from the site in 1976 for use elsewhere on the facility. The area is still mainly bare.

2001 Secondary Deliverables	Target Date
NONE: SCR SUBMITTED	

RI/FS Category 7

- **PSC 7: Firefighting School (Screening PSC)**

The firefighting training school in Building 1713 has been in operation, since 1940, Training that involved gasoline fires (and perhaps other flammable liquids) in open tanks of water reportedly occurred west of Building 1713. The presence of a clearing and firefighting tower east to southeast of Building 1713 suggests training in those areas as well. There is no evidence of hazardous waste disposal or threat to human health or the environmental.

2001 Secondary Deliverables	Target Date
NONE : SCR SUBMITTED	

RI/FS Category 7

- **PSC 16: Brush Disposal Area (Screening PSC)**

Site I6 is northeast of the east end of Forrest Sherman Field. From the late 1960s to 1973 the site was used for the disposal of brush pruned and trimmed at NAS Pensacola. The Army may have used part of the site to bum garbage and dispose of ash..

2001 Secondary Deliverables	Target Date
NONE: SCR SUBMITTED	

RI/FS Category 8

- **PSC 36: Industrial Wastewater Treatment Plant Sewer Line (Screening PSC)**

The industrial waste sewer line is about 23,000 feet long and is located in an area approximately 1 mile wide by 1.5 miles long in the southeastern portion of **NAS** Pensacola. Flow within the sewer line is toward the Industrial Waste Treatment Plant which is located at the northeast end of the base. The entire line will be investigated for leaks. The following schedule is provided for information only as this PSC is currently a screening site.

2001 Secondary Deliverables	Target Date
NONE: SCR SUBMITTED	

RI/FS Category 9

- **PSC 43: Buried Drum Site (Screening PSC)**

Site 43 contains drums and other debris buried in an area near the corner of Murray and Taylor Roads, across Murray Road from Site 10. The area was identified and fenced in January 1994. Presently there is no knowledge of what was in the drums or if the site is contaminated.

2001 Secondary Deliverables	Target Date
NONE: SCRSUBMITTED	

RI/FS Category 10

- **PSC 44: Former UST 3221 SW (Screening PSC)**

This PSC was transferred from the Florida Petroleum Program because chlorinated solvents were detected during the petroleum investigation. The site is near an active hangar (Building 3221) on Forrest Sherman Field, just north of the museum and west of Site 5. The hangar is currently used by the museum for aircraft restoration.

2001 Secondary Deliverables	Target Date
NONE: Funding Programmed for 2001	

RI/FS Category 11

- **PSC 45: Building 603 Lead Site (Screening PSC)**

This PSC was discovered during the investigation of Site 18 (PCB Spill Area) when high levels of lead was detected in the area adjacent to Site 18.

2001 Secondary Deliverables	Target Date
NONE: Funding Programmed for beyond 2003	

RI/FS Category 12

- **PSC 46: FORMER BUILDING 72 (Screening PSC)**

This PSC was discovered during the investigation of Site 38 (Bldg. 71 Sewer Line) when high levels of metals were detected in the area adjacent to Site 38.

2001 Secondary Deliverables	Target Date
NONE: Funding Programmed for beyond 2003	